Update

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# Discipline-Specific Faculty Development

### *Introduction*

In this time of renewed commitment to effective college teaching, administrators and faculty ask, "What more do we need to know about teaching in higher education institutions?" Research in elementary and secondary education suggests that teachers' pedagogical knowledge is an integral part of understanding and improving teaching (Clark & Dunn, 1991; Clark & Peterson, 1986). Dunkin and Barnes (1986) note the lack of attention to college faculty members' knowledge of teaching and call for research on faculty's pedagogical knowledge. As researchers and faculty developers wrestle with theories of pedagogical knowledge, two frames of discussion emerge: generic pedagogical knowledge and discipline-specific pedagogical knowledge. This report examines the distinction between them and argues for more attention to discipline-specific pedagogy. Three cases of faculty development centers illustrate creative ways of incorporating a discipline-specific philosophy and discipline-specific activities in order to improve college teaching.

### *Different Perspectives on Pedagogical Knowledge*

Many researchers hold one of two theories about teaching: either teaching is perceived primarily as transcending disciplinary boundaries and, thus, is governed by a generic set of principles; or it is viewed primarily as linked to the content of a discipline and, therefore, is guided by the practical wisdom of "expert" teachers within each field. Most faculty development centers accommodate the first perspective on teaching—serving all faculty with similar programs. However, most *faculty* fall on the other side of the fence, claiming that teaching in their fields differs from teaching in other disciplines.

Shulman (1987) attempts to settle this argument by outlining the categories of knowledge that teachers must master in order to teach their subject matter. Among the categories, he includes both general pedagogical knowledge and discipline-specific pedagogical knowledge (termed, "pedagogical content knowledge"). Yet, Shulman suggests that discipline-specific pedagogical knowledge is particularly important for teachers who specialize in teaching a particular subject matter. This knowledge distinguishes the expert teacher from the content expert.

Becher's (1987) work also provides support for increasing attention to discipline-specific pedagogy. He argues that faculty in higher education are actually members of different professions, defined by academic disciplines. Becher takes disciplinary differentiation to its extreme, but the facts remain that 1) faculty specialize and are trained in subject matter areas from the beginning of their academic careers in graduate school, and 2) in their first jobs, faculty are often encouraged to proceed as subject matter specialists. That is, although hired by colleges or universities, faculty members' allegiance is often to the discipline in which they were "raised." Thus, they are likely to view teaching from the perspective of their disciplines. Attention to discipline-specific pedagogy is particularly important for *novice* faculty members. Since these faculty are closest to the rigorous subject matter training received in graduate programs, they are most likely to perceive teaching through disciplinary lenses.

### *Discipline-specific Pedagogical Knowledge*

What, exactly, is discipline-specific pedagogical knowledge?

Shulman describes this knowledge (which he calls "pedagogical content knowledge") as including,

> for the most regularly taught topics in one's subject area, the most useful forms of representations of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations—in a word, ways of representing and formulating the subject that make it comprehensible to others. Pedagogical content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult; the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons (1986, 9-10).

Central to the notion of discipline-specific pedagogical knowledge is the interconnectedness of content and pedagogy in the teacher's mind.

## *Discipline-specific Faculty Development*

Recognizing faculty members' disciplinary allegiance and faculty members' propensity for discipline-specific conceptions of teaching, some faculty development centers have begun providing services to develop teaching within the disciplines. (A few have begun empirical examinations of discipline-specific pedagogical knowledge in several fields. See, for example, Irby (1994), Lenze, and Quinlan (1994).)

Three centers that operate from a discipline-specific perspective shared their philosophies and their *modus operandi* with ***Update***. They are the Center for Instructional Development and Research at the University of Washington, the Teaching Effectiveness Program at the University of Oregon, and the Center for Teaching at Vanderbilt University. These faculty development centers provide services to develop and improve teaching within the disciplines.

## *The Case of the University of Washington*

The philosophy of the University of Washington's Center for Instructional Development and Research (CIDR) is to assess faculty's needs and provide services within the framework of disciplinary perspectives. This philosophy is best portrayed in the work of the Center's instructional consultants.

Instructional consultants are assigned to one of three Total Quality Management teams: the problem solving team (including science, math, and engineering), the arts and humanities team, or the social science team. Consultants receive training each year in order to equip them to facilitate a number of activities ranging from individual office consultations with faculty members and teaching assistants who want to talk about teaching in a specific course to organizing projects in response to department-wide concerns about teaching within the discipline.

For example, an individual request may come to the social science team for help with a faculty member's course in social work. The consultant assigned to this faculty member creates a client profile during the "initial contact" meeting. This might include course materials, student evaluations of teaching, and the faculty member's specific concerns or goals for change. From this point, the consultant tailors activities to suit the client's needs. Consulting at this individual level must take into consideration the faculty member's subject matter. At the University of Washington, consultants are prepared for this task because they are assigned to disciplinary teams based on their own fields of expertise.

CIDR's alternate strategy for developing and improving teaching within the disciplines is to *seek* faculty members' pedagogical development needs. A CIDR staff member schedules meetings with department chairs to assess departmental needs. The CIDR staff member first creates a department profile including information about teaching awards won by faculty in the department, the number of teaching assistants in the program, the range of teaching ratings, and other accessible information. Then the staff member meets with the department chair to discover new needs and begin the process of creating a plan for developing and improving teaching. The plan may involve creating a department-wide training program for teaching assistants; or, it may involve presenting a workshop for faculty on a topic specific to the teaching of a chosen course; or, it may involve connecting the department with other campus projects aimed at improving teaching.

For example, CIDR helped the Math Department identify a need to better prepare their graduate students for teaching responsibilities at community colleges and at institutions different from the University of Washington (a four-year, research institution). The CIDR staff knew of the national project, "Preparing Future Faculty," and its goal of linking graduate students in research universities with first-hand, teaching experiences in several different types of colleges. CIDR helped make arrangements for the Math Department to become involved in the Preparing Future Faculty project. Since then, CIDR has received laudatory comments from Math Department graduate students for the eye-opening, growth-producing instructional experience.

CIDR staff recognizes the need to be cognizant of the culture of a given discipline, as well as the changing culture of departments as new

faculty, students, and department chairs alter the make-up of a given program. CIDR embraces the notion of discipline-specific pedagogy and development.

### *The University of Oregon*

The Teaching Effectiveness Program (TEP) at the University of Oregon holds the philosophy that distinct groups of faculty (defined by their college, department, or disciplinary affiliations, as well as by the specific pedagogies of their fields) have distinct needs regarding pedagogical development. Staff members believe that an office devoted to teaching excellence must consider individual needs before undertaking a meaningful development effort.

The TEP has recently taken an institution-wide step in providing individualized contact between the program and individual departments. Last year, the TEP requested that each department identify a contact person (or persons) interested in the development of teaching. Contact persons, acting in an unofficial capacity, serve to communicate the needs of the department and to promote Program activities. Those departments that designated a contact person early in the program development are already reaping the benefits.

For example, the Business School sent four contact persons from different departments, one of whom attended and previewed a generic program on leading discussions. After sampling the workshop, the contact person made recommendations to Program staff on how to customize the workshop for faculty in his school—listing those topics within the workshop that would be particularly relevant for Business faculty, suggesting examples that might be more pertinent, and describing other constraints of the Business School curriculum and educational context. Program staff are currently customizing the workshop for the Business school and will offer the workshop this spring.

The TEP staff is committed to hearing the concerns and goals of individual departments. Evidence of this commitment lies in a newly initiated "small group" program. In this program, faculty contacts in linked departments (or in departments of related fields) meet Program staff over an informal lunch in order to voice departments' "real concerns" regarding teaching. The Program director noted that it is slow going to identify contact people for each department. However, she said that as word has begun to spread about the Program's quality activities and commitment to departmental needs, departments not yet involved have expressed more interest in designating contacts.

### *Vanderbilt University*

Vanderbilt University's Center for Teaching operates from the philosophy that successful faculty mentors who work with novice teachers must begin from these teachers' prior knowledge and conceptions of teaching. Center staff members know from experience that most graduate teaching assistants integrate pedagogy and course content as they learn to teach. Thus, the Center's orientation and preparation program for teaching assistants centers on the idea of "disciplinary clusters."

Five clusters currently organize the teaching assistants at Vanderbilt: problem-solving, lab-science, social science, humanities, and religion. During Vanderbilt's two-week orientation program for graduate teaching assistants (GTAs), GTAs attend sessions on generic teaching techniques each morning. In the afternoon, in like-discipline groups, GTAs have a chance to share ideas and thoughts about the general sessions as they relate to GTAs' own fields.

Most interesting, and most content-specific, are the following three half-day sessions that GTAs attend with their disciplinary cluster. On the first half-day, students explore topics of student relations, troublesome situations, and student expectations in each of the disciplinary clusters. The Center director explained that even these topics vary from discipline to discipline. For example, in the lab-science groups, GTAs are often in closer contact with students, and student-GTA relationships develop differently than they do in other fields.

On the second and third half-days, GTAs address topics specific to their teaching settings and content areas. For example, GTAs in the problem-solving cluster (who are often asked to take full responsibility for a course) address developing course plans, creating a syllabus and cooperative learning from a problem-solving perspective. The religion and humanities clusters address discussion techniques and interpretation of texts. The social science cluster deals with grading essays and methods of interpreting data. The lab-science cluster devotes time to lab management, mini-lectures, tutoring, and grading lab reports.

This discipline-specific preparation is well-received by attending GTAs. Evaluation forms typically are full of future session topic ideas, rather than comments on what could have been done better. This is evidence of a successful faculty development activity that met the varied needs of teaching assistants in different disciplines.

### *Conclusion*

At most universities, faculty development centers or committees already exist. However, many do not give attention to the component of teaching development that centers on faculty members' disciplinary content. If teaching excel-

lence is to be attained in higher education, administrators, faculty, and faculty developers must begin listening to and acting upon the discipline-specific concerns faculty have about teaching. The following list suggests specific items to begin the process:

■ Identify key faculty members within departments.

❙ Look for faculty who are committed to teaching.

❙ Look for faculty with influence in the department.

❙ Use personal or departmental incentives to make the commitment worthwhile.

■ Assess faculty needs within departments.

❙ Survey faculty's needs regarding teaching improvement and development.

❙ Compare needs across departments to determine groupings of faculty.

❙ Make a proposal for development activities based on survey results.

❙ Seek reactions to proposal from key faculty members in different departments.

■ Fund discipline-specific faculty development efforts.

❙ Hire faculty development staff or assign joint-appointed faculty in different disciplines.

❙ Design discipline-specific segments of orientation programs for teaching assistants.

❙ Offer discipline-specific programming for novice faculty members.

■ Develop research programs on teaching within the disciplines.

❙ Identify core concepts that capture thinking about teaching in different disciplines.

❙ Examine the relationship between the content taught and the teaching process.

❙ Describe the exemplary teaching of faculty in different fields.

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**Office of Higher Education**
1201 Sixteenth Street N.W.
Washington, D.C. 20036
202-822-7100





*Higher Education Staff*
Christine Maitland
Rachel Hendrickson
Dely Pena



*This issue written by*
Lisa Firing Lenze, Ph.D., Faculty Development Consultant
*for* Margaret S. Warner Graduate School of Education and
Human Development, University of Rochester